

Claims

What is claimed is:

1. A guidewire manufacturing assembly, comprising:

an elongate shaft having a proximal end and a distal end;

a coil disposed along the length of the shaft;

a holding fixture coupled to the shaft proximate the distal end;

a solder ball disposed at the distal end;

wherein the solder ball is disposed to flux; and

a heat source disposed proximate the solder ball.

2. The guidewire in accordance with claim 1, wherein the shaft comprises stainless steel.

3. The guidewire in accordance with claim 1, wherein the shaft comprises nickel-titanium alloy.

4. The guidewire in accordance with claim 1, wherein the coil comprises stainless steel.

5. The guidewire in accordance with claim 1, wherein the coil comprises nickel-titanium alloy.

6. The guidewire in accordance with claim 1, wherein the holding fixture comprises a heat sink.

7. The guidewire in accordance with claim 1, further comprising a heat shrink tube coupled to the shaft.

8. The guidewire in accordance with claim 7, wherein the shrink tube comprises polytetrafluoroethylene.

9. A method of forming an atraumatic distal tip on a guidewire, comprising:
providing an elongate shaft having a distal end and a coil disposed along the length of the shaft;
providing a solder ball;
providing a quantity of flux proximate the solder ball;
disposing the solder ball at the distal end of the shaft; and
heating the solder ball, wherein heating activates the flux and allows the solder ball to at least partially melt and flow into the coil and around the shaft, wherein an atraumatic tip is formed by solder remaining at the distal end of the shaft.

10. The method in accordance with claim 9, wherein the step of providing a quantity of flux proximate the solder ball includes dipping the solder ball in the flux.

11. The method in accordance with claim 9, wherein the step of providing a quantity of flux proximate the solder ball includes disposing the flux at the coil proximate the distal end of the shaft.

12. The method in accordance with claim 9, further comprising the step of coupling the shaft to a holding fixture.

13. The method in accordance with claim 12, wherein the holding fixture holds the shaft in a horizontal orientation.

14. The method in accordance with claim 12, wherein the holding fixture holds the shaft in a vertical orientation.

15. The method in accordance with claim 9, wherein the guidewire further comprises a heat shrink tube coupled to the shaft.

16. The method in accordance with claim 15, wherein the heat shrink tube stops proximal flow of flux during the step of heating the solder ball.

17. A method of forming an atraumatic distal tip on a guidewire, comprising:
providing an elongate shaft having a distal end a coil disposed along the length of the shaft;
coupling the shaft to a holding fixture;

providing a solder ball;

providing a quantity of flux proximate the solder ball;

disposing the solder ball at the distal end of the shaft; and

heating the solder ball, wherein heating activates the flux and allows the solder ball to at least partially melt and flow into the coil and around the shaft, wherein an atraumatic tip is formed by solder remaining at the distal end of the shaft.

18. The method in accordance with claim 17, wherein the step of providing a quantity of flux proximate the solder ball includes dipping the solder ball in the flux.

19. The method in accordance with claim 17, wherein the step of providing a quantity of flux proximate the solder ball includes disposing the flux at the coil proximate the distal end of the shaft.

20. The method in accordance with claim 17, wherein the holding fixture holds the shaft in a horizontal orientation.

21. The method in accordance with claim 17, wherein the holding fixture holds the shaft in a vertical orientation.

22. The method in accordance with claim 17, wherein the guidewire further comprises a heat shrink tube coupled to the shaft.

23. The method in accordance with claim 22, wherein the heat shrink tube stops proximal flow of flux during the step of heating the solder ball.

24. A guidewire manufacturing assembly, comprising:
an elongate shaft having a proximal end and a distal end;
a coil disposed along the length of the shaft;
a holding fixture coupled to the shaft proximate the distal end;
an atraumatic distal tip coupled to the distal end of the shaft;
wherein the atraumatic distal tip is formed of a solder ball coupled with flux that has been at least partially melted; and
a heat source disposed proximate the solder ball.

25. A guidewire manufacturing assembly, comprising:
an elongate shaft having a proximal end and a distal end;
a coil disposed along the length of the shaft;
a holding fixture coupled to the shaft proximate the distal end;
an atraumatic distal tip coupled to the distal end of the shaft, the atraumatic distal tip formed of a solder ball that has been at least partially melted.

26. A guidewire manufacturing assembly, comprising:
an elongate shaft having a proximal end and a distal end;
a coil disposed along the length of the shaft;
a polytetrafluoroethylene heat shrink tube coupled to the shaft;

Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
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